

III. AMENDMENTS TO THE CLAIMS

The following listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims

Claims 1-28 (Cancelled)

29. (New) A method of testing a variable function voting solenoid-operated valve, the method comprising:

disposing a first solenoid-operated valve, a second solenoid-operated valve, and a bypass valve in mutual fluid communication;

disposing a first pressure sensor in fluid communication with said first solenoid-operated valve;

disposing a second pressure sensor in fluid communication with said second solenoid-operated valve;

disposing a third pressure sensor in fluid communication with said bypass valve;

disposing a logic control system in electronic communication with each of said first solenoid-operated valve and said second solenoid-operated valve, and in electronic communication with each of said first pressure sensor, said second pressure sensor, and said third pressure sensor;

selectively activating one of either a 1-out-of-1 with hot stand-by testing mode and a 2-out-of-2 with high diagnostics testing mode;

de-energizing said first solenoid-operated valve and confirming a closed state of said first pressure sensor;

re-energizing said first solenoid-operated valve and confirming an open state of said first pressure sensor;

de-energizing said second solenoid-operated valve and confirming a closed state of said second solenoid-operated valve; and

re-energizing said second solenoid-operated valve and confirming an open state of said second pressure sensor.

30. (New) The method of testing a variable function voting solenoid-operated valve of Claim 29, wherein said selectively activating a 1-out-of-1 with hot stand-by mode further comprises selectively activating said 1-out-of-1 with a hot stand-by mode without bypassing said variable function voting solenoid-operated valve prior to initiation of testing.

31. (New) The method of testing a variable function voting solenoid-operated valve of Claim 29, wherein said selectively activating a 2-out-of-2 with high diagnostics mode further comprises selectively activating said 2-out-of-2 with high diagnostics mode without bypassing said variable function voting solenoid-operated valve prior to initiation of testing.

32. (New) The method of testing a variable function voting solenoid-operated valve of Claim 29, further comprising initiating a safety action.

33. (New) The method of testing a variable function voting solenoid-operated valve of Claim 32, wherein said initiating a safety action further comprises directing a pressure supply toward said bypass valve.
34. (New) The method of testing a variable function voting solenoid-operated valve of Claim 33, wherein said directing a pressure supply further comprises directing a fluid pressure supply.
35. (New) The method of testing a variable function voting solenoid-operated valve of Claim 34, wherein said directing a fluid pressure supply further comprises directing a supply of pneumatic pressure.
36. (New) The method of testing a variable function voting solenoid-operated valve of Claim 34, wherein said directing a fluid pressure supply further comprises directing a supply of dry instrument air.
37. (New) The method of testing a variable function voting solenoid-operated valve of Claim 34, wherein said directing a fluid pressure supply further comprises using a switching device to direct a fluid pressure supply.
38. (New) The method of testing a variable function voting solenoid-operated valve of Claim 37, wherein said using a switching device further comprises using a key-activated switching device.

39. (New) The method of testing a variable function voting solenoid-operated valve of Claim 32, wherein said initiating a safety action further comprises venting a process pressure accumulated in said by-pass valve.

40. (New) The method of testing a variable function voting solenoid-operated valve of Claim 39, wherein said venting a process pressure further comprises venting accumulated process pressure from said by-pass valve to an atmospheric vent.